

**CLAIMS**

1. Steering device for sports articles (1, 101, 201, 301, 401) adapted to slide on a supporting surface (2, 102, 202, 302, 402) by means of a plurality of supporting and sliding elements (3, 103, 203, 303, 403) provided in an in-line arrangement, said steering device comprising a chassis (5, 105, 205, 305, 405), to which there is associated at least a carriage (6a, 6b, 106a, 106b, 206a, 206b, 306a, 306b, 406a, 406b) for supporting at least one of said supporting and sliding elements (3, 103, 203, 303, 403), said carriage (6a, 6b, 106a, 106b, 206a, 206b, 306a, 306b, 406a, 406b) being adapted to swing relative to said chassis (5, 105, 205, 305, 405), against the force of elastic means (17, 18, 417), about an axis (7, 107a, 107b, 207a, 207b, 307a, 307b, 407a, 407b) that is inclined by an angle  $\alpha$  with respect to said supporting surface (2, 102, 202, 302, 402) and lies substantially on the median longitudinal plane (4, 404) of said chassis (5, 105, 205, 305, 405), **characterized in that** at least two of said supporting and sliding elements (3, 103, 203, 303, 403) are supported by said carriage (6a, 6b, 106a, 106b, 206a, 206b, 306a, 306b, 406a, 406b) at respective support axes (25, 26, 125, 126, 225, 226, 325, 326, 425, 426) arranged in a manner that is substantially parallel to said supporting surface (2, 102, 202, 302, 402) on opposite sides with respect to the swinging centre (27, 127, 227, 327, 427) of said carriage (6a, 6b, 106a, 106b, 206a, 206b, 306a, 306b, 406a, 406b) relative to said chassis (5, 105, 205, 305, 405).

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2. Steering device according to claim 1, wherein said chassis (5, 105, 205, 305) has, approximately in correspondence to at least one of the end portions (8a, 8b) thereof, a support member (9) that is provided with at least a surface (9a) that is inclined by an angle  $\beta$  relative to said supporting surface (2, 102, 202, 302), said angle  $\beta$  being preferably complementary to said angle  $\alpha$ .

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3. Steering device according to claim 2, wherein said carriage (6a, 6b,

106a, 106b, 206a, 206b, 306a, 306b) is provided with an arm (11) for the connection to said support member (9), said arm featuring a surface (11a) facing towards and counter-shaped, i.e. shaped complementarily, to the surface (9a) of said support member (9).

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4. Steering device according to claim 3, wherein from opposite sides with respect to said arm (11) there extend a first and a second fork (13, 14), each one of which supporting a respective one of said supporting and sliding elements (3, 103, 203, 303) in correspondence to said support axes  
10 (25, 26, 125, 126, 225, 226, 325, 326).

5. Steering device according to any of the preceding claims or combination thereof, wherein said elastic means (17, 18) interact with said arm (11) to elastically contrast the swinging movement of said carriage  
15 (6a, 6b, 106a, 106b; 206a, 206b, 306a, 306b).

6. Steering device according to claim 5, wherein said elastic means (17, 18) are housed within respective accommodations (19, 20) provided in said support member (9), and interact with respective projections (23, 24)  
20 extending from said arm (11).

7. Steering device according to any of the preceding claims or combination thereof, wherein said swinging axis (7, 107a, 107b, 207a, 207b, 307a, 307b) is inclined by an angle comprised between, but not  
25 including, 0° and 90° in respect to said supporting surface (2, 102, 202, 302).

8. Steering device according to claim 7, wherein said swinging axis (7, 107a, 107b, 207a, 207b, 307a, 307b) extends approximately in  
30 correspondence to, or above, the support axis (25, 125, 225, 325) of said supporting and sliding element (3, 103, 203, 303) located adjacent the middle portion of the chassis (5, 105, 205, 305).

9. Steering device according to any of the preceding claims or combination thereof, wherein to said chassis (5, 105, 205, 305, 405) there are associated a first and a second carriage (6a, 6b, 106a, 106b, 206a, 206b, 306a, 306b, 406a, 406b) arranged approximately in correspondence  
5 to the end portions (8a, 8b, 408a, 408b) of said chassis (5, 105, 205, 305, 405), each such carriage supporting a pair of said supporting and sliding elements (3, 103, 203, 303, 403).

10 10. Steering device according to claim 9, wherein said first and second carriage (6a, 6b, 206a, 206b) are arranged to symmetrically oppose each other.

11. Steering device according to claim 9, wherein said supporting and sliding elements (3, 103, 203, 303, 403) are constituted by at least four  
15 wheels.

12. Steering device according to claim 11, wherein said wheels (3, 103, 203, 303, 403) are of a different size.

20 13. Steering device according to claim 9, wherein the lines (30, 330a, 330b, 430) connecting the support axis (25, 26, 325a, 326a, 325a, 326b, 425, 426) of said supporting and sliding elements (3, 303, 403) are arranged parallel to the supporting surface (2, 302, 402).

25 14. Steering device according to claims 12 and 13, wherein at least two front wheels (303a, 303b) located at the front of said chassis (305) have a smaller diameter than at least two rear wheels (303c, 303d) located at the rear of said chassis (305), the line (330a) connecting the support axis (325a, 326a) of said front wheels (303a, 303b) being located closer to  
30 said supporting surface (302) than the line (330b) connecting the support axis (325b, 326b) of said rear wheels (303c, 303d).

15. Steering device according to claim 12, wherein the lines (130a,

130b, 230a, 230b) connecting the support axis (125a, 126a, 225a, 226b) of said wheels (103, 203) are arranged inclined in respect to the supporting surface (102, 202).

5      **16.** Steering device according to claims 12 and 15, wherein the front wheel (103a) and the third wheel (103c) from the front of the chassis (105) are smaller in diameter than the second wheel (103b) and the rear wheel (103d), said lines (130a, 130b) being inclined along the same direction.

10      **17.** Steering device according to claims 12 and 15, wherein the wheels (203b, 203c) located central in the central portion of said chassis (205) are smaller in diameter than the front wheel (203a) and the rear wheel (203d), the lines (230a, 230b) respectively connecting the first support axis (225a, 226a) and the second support axis (225b, 226b) being oppositely inclined  
15 in respect to the supporting surface (202).

**18.** Steering device according to claims 12 or 13, wherein said swinging axis (407a, 407b) are arranged inclined at an angle of 90° relative to said supporting surface (402) and lying substantially on the longitudinal  
20 median plane of said chassis (405).

**19.** Steering device according to claim 18, wherein the wheels (403a) arranged at the front and at the rear of said chassis (405) have a width which is smaller than the width of the wheels (403b) arranged at a central  
25 portion of said chassis (405).

**20.** Sports article adapted to slide on a supporting surface by means of a plurality of supporting and sliding elements aligned along a same longitudinal axis, **characterized in that** it comprises a steering device  
30 according to claim 1.

**21.** Sports article according to claim 20, wherein said supporting and sliding elements comprise wheels, ice blades, short skis and the like.